

LVII. *Remarks on a Passage of the Editor of the Connoissance des Mouvements Célestes pour l'Année 1762: In a Letter to the Right Hon. George Earl of Macclesfield, President of the Royal Society. By Matthew Raper, Esq; F. R. S.*

My Lord,

Read Dec. 17, 1761. **S**IR Isaac Newton, in the second and third editions of his Principia, (lib. iii. prop. 19.) has mentioned Norwood's measure of a degree on the meridian, as taken about the year 1635.

The editor of the *Connoissance des Mouvements Célestes pour l'Année 1762*, p. 196, has the following passage :

“ On *pretend* aussi en Angleterre, que des l'année 1636, Norwood avoit trouvé le degré par des mesures prises entre Londres et Yorck de 57300, ou de 57400 toises ; résultat, qui se *trouveroit* d'une exactitude bien singulière pour ce tems la : mais un fait *plus authentique* c'est que Newton en 1666 jettant les premiers fondemens de son admirable système de la gravitation, n'avoit jamais ouï parler des mesures de Norwood, et supposoit, avec tous les pilotes de son tems, le degré de 60 milles Anglois, qui font 49200 toises.”

Here this writer asserts, that Sir Isaac Newton had never heard of Norwood's measure in 1666, (of which he can bring no proof) and would thence insinuate, that, probably, there never was such a one, or at least
not

not so early as is pretended. In either case, Sir Isaac, in the proposition above-mentioned, must have positively asserted what he did not know to be true, or knowingly have published a falsehood.

Norwood's book is intituled, *The Seaman's Practice, containing a fundamental Problem in Navigation, experimentally verified, namely, touching the Compass of the Earth and Sea, and the Quantity of a Degree, in our English Measures, &c.* By Richard Norwood, Redder in the Mathematics. He tells us, that having observed the latitude of London in the year 1633, and that of York in 1635, he measured the distance of the two cities, in his return from York to London; and the account he gives of his measurement is so clear and ingenuous, that the reader will find no cause to doubt either his abilities or his fidelity.

The book was first published in the year 1636, and hath since gone through many editions, the eighth being printed in 1668. The title above-mentioned is likewise found verbatim in London's catalogue of the most vendible books in England, published in the year 1658, twelve years before Picard measured a degree in France; so that the authenticity of the fact, that Norwood's measure preceded Picard's, cannot be doubted.

The editor of the *Connoissance*, p. 195, 196, has given a list of different measures of a degree, according to different authors, who had either actually attempted to measure one themselves, or had adopted the measure in this list for a true one. Among these, he has most disingenuously put Sir Isaac Newton's name to a measure of sixty English statute-miles; which must imply, that Sir Isaac believed this to be nearest the truth,

truth, till he knew of Picard's measure in 1670. Whereas it does not appear, nor is it at all probable, that he ever preferred that rude conjectural measure to the measures of Snellius, and others well known to the learned world before the year 1666; but being at that time retired from Cambridge, on account of the plague, and absent from his books, having occasion to use the diameter of the earth in a calculation, he took the common account in use among seamen, as Dr. Pemberton has related, in the preface to his *View of Sir Isaac Newton's Philosophy*. And this anecdote seems to be all the authority the French writer had, for ascribing that measure to Sir Isaac Newton, and for asserting, that he had never heard of Norwood's measure in the year 1666.

If his view was to do honour to his own country, by depriving others of their due praise, the wiser part of his countrymen will not think themselves much obliged to him, well knowing, that the reputation of a great kingdom, which has so long distinguished itself in Europe by men eminent in arts and arms, does not stand in need of the varnish of such ungenerous practices.

I am,

My Lord,

With great respect,

Your Lordship's

most obedient servant,

Nov. 19, 1761.

Matt. Raper.